⑤ $f(x) = \dfrac{x^2-4x-5}{x-3}$

VA

$x = 3$

HA

$3 \mid 1 \quad -4 \quad -5$

$\quad\quad 3 \quad -3$

$1 \quad -1 \quad \cancel{-8}$

$y = x - 1$

$x - 1 = \dfrac{x^2-4x-5}{x-3}$

$\cancel{x^2} \cancel{-4x} + 3 = \cancel{x^2} \cancel{-4x} - 5$

$3 \neq -5$

x int

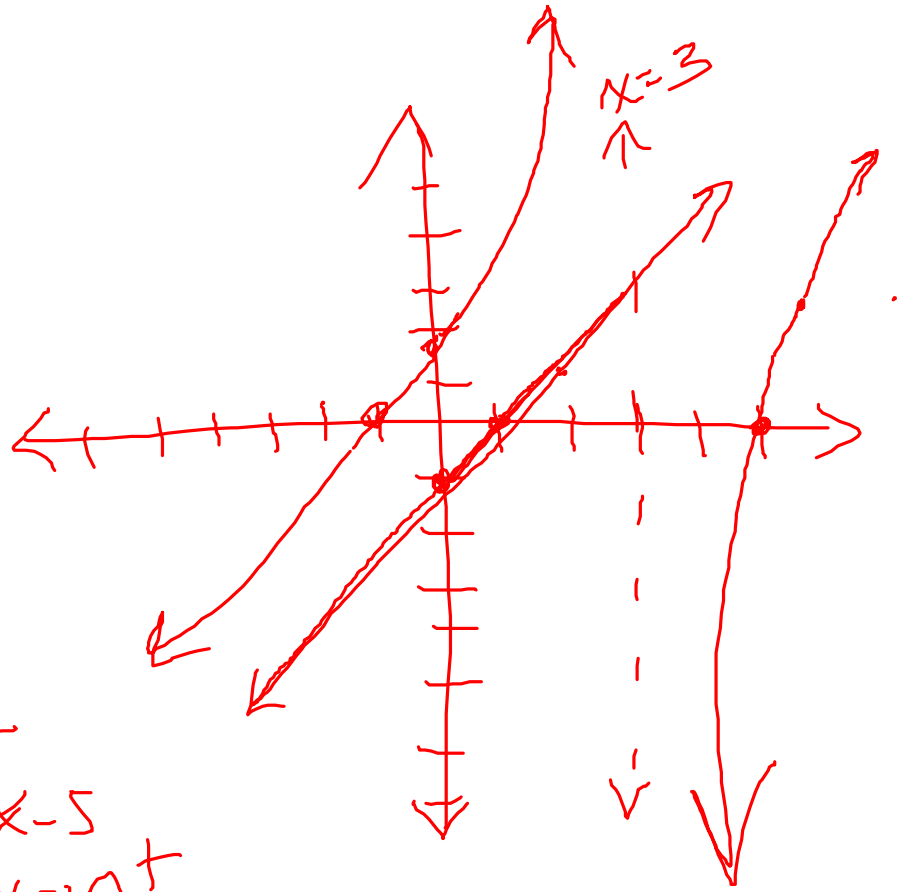
$0 = x^2 - 4x - 5$

$0 = (x-5)(x+1)$

$(5, 0)(-1, 0)$

y int

$f(0) = -5$



③ $f(x) = \frac{x-2}{x^2-1}$

VA

$x^2 - 1 = 0$

$x = \pm 1$

HA

$y = 0$

Cross?

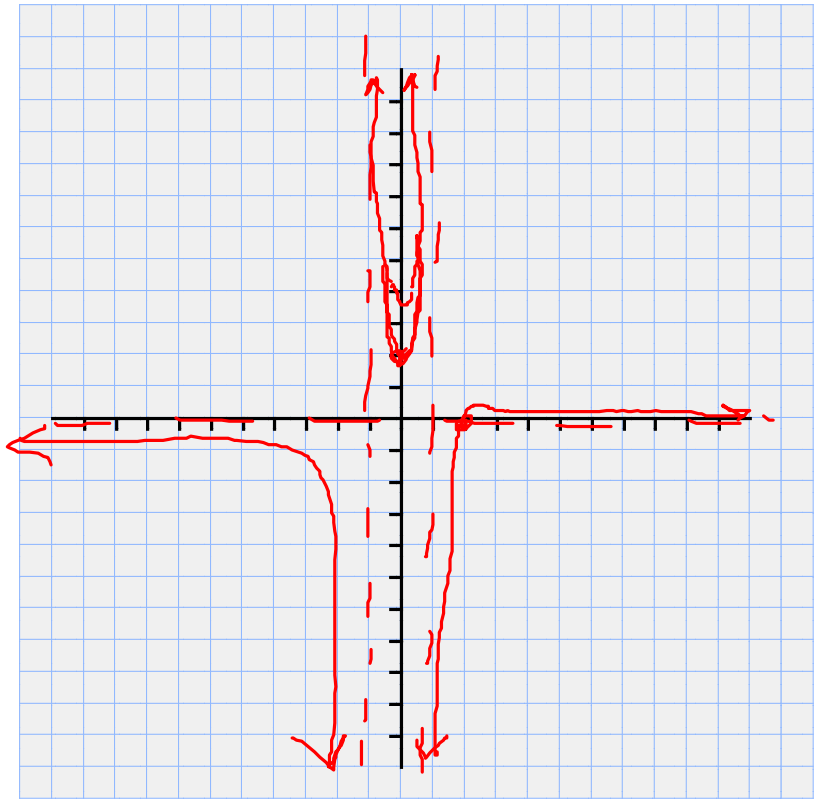
$0 = x - 2$

$x = 2$

$(2, 0)$

y-int

$f(0) = 2$



⑥ $f(x)=\frac{x^2-2x-3}{x^2-x-6}=\frac{(x-3)(x+1)}{(x-3)(x+2)}$

VA

$x=3$

$x=-2$

HA

$y=1$

Cross

$1 \stackrel{?}{=} \frac{x+1}{x+2}$

$x+2 \neq x+1$

No

X-int

$0=x+1$

$x=-1$